

WHAT IS CLAIMED IS:

1. A system for determining forwarding information for a data frame received by a network device, comprising:

a plurality of input ports configured to receive a plurality of data frames;

queuing logic configured to transfer at least some of the received data frames to an external memory;

5 a forwarding engine configured to generate forwarding information for at least some of the received data frames transferred by the queuing logic to the external memory; and

10 a port filter configured to store forwarding information for one or more of the received data frames, analyze each of the received data frames to determine whether there is stored forwarding information relating to the received data frame, and, when there is stored forwarding information relating to the received data frame, using the stored forwarding information to forward the received data frame.

2. The system of claim 1, wherein the port filter includes:

a programmable memory configured to store the forwarding information for the one or more received data frames.

3. The system of claim 2, wherein the forwarding information is stored in the programmable memory by a host device.

4. The system of claim 1, wherein the port filter includes:

a lookup table configured to store identifying information relating to the one or more received data frames.

5. The system of claim 4, wherein the port filter is configured to compare a portion of each of the received data frames to the identifying information in the lookup table to determine whether there is stored forwarding information corresponding to the received data frame.

6. The system of claim 1, wherein the port filter is further configured to mask the transferal of the received data frame by the queuing logic to the external memory causing the forwarding engine to ignore the transferal of the received data frame.

7. The system of claim 6, wherein the forwarding engine is further configured to bypass generation of forwarding information for the received data frame when the forwarding engine ignores the transferal of the received data frame.

8. The system of claim 1, wherein at least some of the one or more received data frames are related to each other.

9. The system of claim 8, wherein the related data frames correspond to data frames exchanged in a point-to-point communication.

10. A method for determining forwarding information for a data frame received by a network device, comprising:

programming a memory to store forwarding information for one or more data frames;  
receiving a plurality of data frames;

5 analyzing each of the received data frames to determine whether the received data frame corresponds to one of the one or more data frames; and

using the stored forwarding information to forward the received data frame when the received data frame corresponds to one of the one or more data frames.

11. The method of claim 10, further comprising:

generating forwarding information for the received data frame when the received data frame does not correspond to one of the one or more data frames.

12. The method of claim 10, wherein the programming a memory includes:

storing the forwarding information in the memory by a host device.

13. The method of claim 10, wherein the network device includes a lookup table configured to store identifying information for the one or more data frames; and

wherein the analyzing each of the received data frames includes:

comparing a portion of each of the received data frames to the identifying information in

5 the lookup table to determine whether the received data frame corresponds to one of the one or more data frames.

14. The method of claim 10, further comprising:

storing at least some of the received data frames in an external memory.

15. The method of claim 14, further comprising:

masking the storing of the received data frame in the external memory when the received data frame corresponds to one of the one or more data frames.

16. A multiport network device, comprising:

a memory configured to store forwarding information associated with one or more data frames;

a lookup table configured to store identifying information relating to the one or more

5 data frames;

a plurality of input ports configured to receive a plurality of data frames;

queueing logic configured to transfer at least some of the received data frames to an external memory;

10 a forwarding engine configured to generate forwarding information for at least some of the received data frames transferred by the queueing logic to the external memory; and

15 a port filter configured to compare a portion of each of the received data frames to the identifying information stored in the lookup table to determine whether the received data frame is related to one of the one or more data frames for which the memory stores forwarding information, and, when the received data frame is related to one of the one or more data frames, prevent the forwarding engine from generating forwarding information for the received data frame and use the stored forwarding information to forward the received data frame.

17. The multiport network device of claim 16, wherein a host device stores the forwarding information in the memory.

18. The multiport network device of claim 16, wherein the forwarding engine is configured to ignore transferal of the received data frame to the external memory when the port filter masks the transferal of the received data frame.

19. The multiport network device of claim 18, wherein the forwarding engine is further configured to bypass generation of forwarding information for the received data frame when the forwarding engine ignores the transferal of the received data frame.